

What is Claimed, is:

1. A surface expression vector comprising any one or two or more of pgsB, pgsC and pgsA genes encoding poly-gamma-glutamic acid synthase complex and
5 a gene encoding a spike antigen protein or a nucleocapsid antigen protein of SARS coronavirus.
2. The surface expression vector according to claim 1, wherein the spike antigen protein is SARS SA, SARS SB, SARS SC, SARS SD or SARS SBC.
10
3. The surface expression vector according to claim 1, wherein the nucleocapsid antigen protein is SARS NA, SARS NB or SARS N.
4. The surface expression vector according to claim 2, wherein the vector is
15 pHCE2LB:pgsA-SARS SA, pHCE2LB:pgsA-SARS SC or pHCE2LB:pgsA-SARS SBC.
5. The surface expression vector according to claim 3, wherein the vector is pHCE2LB:pgsA-SARS NB or pHCE2LB:pgsA-SARS N.
20
6. A microorganism transformed by the expression vector of any one claim among claims 1 to 5.
7. The microorganism according to claim 6, wherein the microorganism is
25 selected from the group consisting of *E. coli*, *Salmonella typhi*, *Salmonella typhimurium*, *Vibrio cholerae*, *Mycobacterium bovis*, *Shigella*, *Bacillus*, lactic acid bacterium, *Staphylococcus*, *Listeria monocytogenes*, and *Streptococcus*.
8. A method for producing a spike antigen protein or a nucleocapsid antigen protein of SARS coronavirus comprising culturing the microorganism of claim 6.
30

9. A vaccine for prevention of SARS virus comprising the spike antigen protein or the nucleocapsid antigen protein produced by the method of claim 8, as an effective ingredient.
- 5 10. The vaccine according to claim 9, wherein the antigen protein is an expressed form on the surface of microorganism, a crudely extracted form or a purified form.
- 10 11. The vaccine according to claim 9, wherein the vaccine can be taken by oral administration or in food.
12. The vaccine according to claim 9, wherein the vaccine is for subcutaneous or intra-peritoneal injection.
- 15 13. The vaccine according to claim 9, wherein the vaccine is for intranasal administration.
14. The method according to claim 8, wherein the microorganism is lactic acid bacterium.
- 20 15. A lactic acid bacterium, which is produced by the method of claim 14, and the spike antigen protein or the nucleocapsid antigen protein of SARS coronavirus is expressed on the surface.
- 25 16. A vaccine for prevention of SARS comprising the lactic acid bacterium of claim 15, an antigen protein extracted from said lactic acid bacterium, or an antigen protein purified from said lactic acid bacterium as an effective ingredient.
- 30 17. The vaccine according to claim 16, wherein the vaccine can be taken by

oral administration or in food.

18. The vaccine according to claim 16, wherein the vaccine is for subcutaneous or intra-peritoneal injection.

5

19. The vaccine according to claim 16, wherein the vaccine is for intranasal administration.